ZMK (32)7-8 2016, S. 486-489

Dr. Daniel Hellmann, Prof. Dr. Hans J. Schindler

Koordinatives Training mit dem RehaBite® – Empfehlungen aus der Praxis

[1] Crossley K, Bennell K, Green S, Cowan S, McConnell J: Physical therapy for patellofemoral pain: a randomized, double-blinded, placebo-controlled trial. Am J Sports Med 30, 857–865 (2002).

[2] Ferrario VF, Tartaglia GM, Luraghi FE, Sforza C: The use of surface electromyography as a tool in differentiating temporomandibular disorders from neck disorders. Man Ther 12, 372–379 (2007).

[3] Glaros AG, Glass EG, Brockman D: Electromyographic data from TMD patients with myofascial pain and from matched control subjects: evidence for statistical, not clinical, significance. J Orofac Pain 11, 125–129 (1997).

[4] Hellmann D, Brüstle F, Terebesi S, et al: Static balancing behaviour of the mandible. Eur J Oral Sci (2015); In Druck.

[5] Hellmann D, Giannakopoulos NN, Blaser R, Eberhard L, Rues S, Schindler HJ: Long-term training effects on masticatory muscles. J Oral Rehabil 38, 912–920 (2011).

[6] Hides JA, Jull GA, Richardson CA: Long-term effects of specific stabilizing exercises for first-episode low back pain. Spine (Phila Pa 1976) 26, E243–248 (2001).

[7] Hides JA, Richardson CA, Jull GA: Multifidus muscle recovery is not automatic after resolution of acute, first-episode low back pain. Spine (Phila Pa 1976) 21, 2763–2769 (1996).

[8] Hodges PW. Pain and motor control: From the laboratory to rehabilitation. J Electromyogr Kinesiol 21, 220–228 (2011).

[9] Hodges PW, Richardson CA: Inefficient muscular stabilization of the lumbar spine associated with low back pain. A motor control evaluation of transversus abdominis. Spine (Phila Pa 1976) 21, 2640–2650 (1996).

[10] Hodges PW, Tucker K: Moving differently in pain: a new theory to explain the adaptation to pain. Pain 152, S90–98 (2011).

[11] Iida T, Komiyama O, Honki H, et al: Effect of a repeated jaw motor task on masseter muscle performance. Arch Oral Biol 60, 1625–1631 (2015).

[12] Kumar A, Grigoriadis J, Trulsson M, Svensson P, Svensson KG: Effects of short-term training on behavioral learning and skill acquisition during intraoral fine motor task. Neuroscience 306, 10–17 (2015).

[13] Lund J, Donga R, Widmer C, Stohler C: The pain-adaptation model: a discussion of the relationship between chronic musculoskeletal pain and motor activity. Can J Physiol Pharmacol 69, 683–694 (1991).

[14] Magnusson T, Egermark I, Carlsson GE: A longitudinal epidemiologic study of signs and symptoms of temporomandibular disorders from 15 to 35 years of age. J Orofac Pain 14, 310–319 (2000).

[15] McGill S: Low back disorders: evidence-based prevention and rehabilitation. Human Kinetics (2007).

[16] Medlicott MS, Harris SR: A systematic review of the effectiveness of exercise, manual therapy, electrotherapy, relaxation training, and biofeedback in the management of temporomandibular disorder. Phys Ther 86, 955–973 (2006).

[17] Newell KM. Motor skill acquisition. Annu Rev Psychol 42, 213–237 (1991).

[18] Pereira LJ, Steenks MH, de Wijer A, Speksnijder CM, van der Bilt A: Masticatory function in subacute TMD patients before and after treatment. J Oral Rehabil 36, 391–402 (2009).
[19] Schindler HJ, Hugger A, Kordaß B, Türp JC: Grundlagen der Schienentherapie bei Myoarthropathien des Kausystems. Z Kraniomandib Funkt 6, 207–230 (2014).
[20] Schindler HJ, Türp JC, Nilges P, Hugger A: Therapie bei Schmerzen der Kaumuskulatur: Aktualisierung der Empfehlungen. Schmerz 27, 243–252 (2013).
[21] Sehm B, Taubert M, Conde V, et al: Structural brain plasticity in Parkinson's disease induced by balance training. Neurobiol Aging 35, 232–239 (2014).
[22] Stolzenberg H: Bundes-Gesundheitssurvey (1998). Berlin: Robert-Koch-Institut (2000).
[23] Stuge B, Laerum E, Kirkesola G, Vollestad N: The efficacy of a treatment program focusing on specific stabilizing exercises for pelvic girdle pain after pregnancy: a randomized controlled trial. Spine (Phila Pa 1976) 29, 351–359 (2004).
[24] Svensson P: Masseter reflexes modulated by pain. Mov Disord 17 (Suppl 2), S45–48 (2002).
[25] Tartaglia GM, Moreira Rodrigues da Silva MA, Bottini S, Sforza C, Ferrario VF: Masticatory muscle activity during maximum voluntary clench in different research diagnostic criteria for temporomandibular disorders (RDC/TMD) groups. Man Ther 13, 434–440 (2008).
[26] Taubert M, Draganski B, Anwander A, et al: Dynamic properties of human brain structure: learning-related changes in cortical areas and associated fiber connections. J Neurosci 30, 11670–11677 (2010).
[27] Türp JC, Schindler HJ, Pritsch M, Rong Q: Antero-posterior activity changes in the superficial masseter muscle after exposure to experimental pain. Eur J Oral Sci 110, 83–91 (2002).

ZMK (32)7-8 2016, S. 480-481

Dr. Gabriele David

Mehrfachschutz für Risikostellen

[1] Mombelli A: Periodontitis as an infectious disease: specific features and their implications. Oral Dis 2003; 9 Suppl 1: 6–10.
[2] American Dental Association Council on Scientific Affairs: Professionally applied topical fluoride. Evidence-based clinical recommendations. JADA 2006; 137: 1151–1159.
[3] Zahnärztliche Zentralstelle Qualitätssicherung: Kurzfassung der Leitlinie “Fluoridierungsmassnahmen zur Kariesprophylaxe”. Update der Leitlinie AWMF Register Nr. 083–001, März 2012. www.zzq-koeln.de/leit.htm.
[4] Marsh P, Martin MV: Orale Mikrobiologie. Georg Thieme Verlag, Stuttgart 2003.
[5] Featherstone JBD: The caries balance: The basis for caries management by risk assessment. Oral Health Prev Dent 2004; 2 (Suppl 1): 259–264.
[6] Fischer K: Wissenschaftliche Dokumentation Cervitec F. Ivoclar Vivadent AG 2016.
[7] Hallström H, Lindgren S, Twetman S: Effect of a chlorhexidine-containing brush-on gel on peri-implant mucositis. Int J Dent Hyg 2015; doi: 10.1111/idh.12184.

ZMK (32)7-8 2016, S. 478-479

Behandlung chronischer Parodontitis ohne Antibiotika

[1] Ainamo J, Bay I: Problems and proposals for recording gingivitis and plaque. Int Dent J 1975; 25: 229–35.

[2] Alvares O, Altman LC, Springmeyer S, Ensign W, Jacobson K: The effect of subclinical ascorbate deficiency on periodontal disease in nonhuman primates. J Periodontal Res 1984; 16: 628–634.

[3] Butler BL, Morejon O, Low SB: An accurate, time-efficient method to assess plaque accumulation. JADA 1996; 127: 1763–1766.

[4] Chapple IL, Milward MR, Dietrich T: The prevalence of inflammatory periodontitis is negatively associated with serum antioxidant concentrations. J Nutr 2007; 137: 657–664.

[5] Colombo AP, Haffajee AD, Dewhirst FE, Paster BJ, Smith CM, Cugini MA, Socransky SS: Clinical and microbiological features of refractory periodontitis. J Clin Periodontol 1998; 25: 169–180.

[6] El-Sharkawy H, Aboelsaad N, Eliwa M, Darweesh M, Alshahat M, Kantarci A, Hasturk H, Van Dyke TE: Adjunctive treatment of chronic periodontitis with daily dietary supplementation with Omega-3 fatty acids and low-dose Aspirin. J Periodontol 2010; Jun 23 [Epub ahead of print].

[7] Jenzsch A, Eick S, Purschwitz RF, Jentsch H: Nutritional intervention in patients with periodontal disease: clinical, immunological and microbiological variables during 12 months. Br J Nutr 2009; 101: 879–885.

[8] Kinane DF, Darby IB, Said S, Luoti H, Sorsa T, Tikanoja S, Mäntylä P: Changes in gingival crevicular fluid matrix metalloproteinase-8 levels during periodontal treatment and maintenance. J Periodont Res 2003; 38: 400–404.

[9] Lang NP, Joss A, Orsanic T, Gusberti FA, Siegrist BE: Bleeding on probing. A predictor for the progression of periodontal disease? J Clin Periodontol 1986; 13: 590–596.

[10] Lang NP, Adler R, Joss A, Nyman S: Absence of bleeding on probing. An indicator of periodontal stability. J Clin Periodontol 1990; 17: 714–721.

[11] Lee W, Aitken S, Sodek J, McCulloch CAG: Evidence of a direct relationship between neutrophil collagenase activity and periodontal tissue destruction in vivo: role of active enzyme in human periodontitis. J Periodont Res 1995a; 30: 23–33.

[12] Lee W, Aitken S, Kulkarni G, Birek P, Overall CM, Sodek J, McCulloch CA: Collagenase activity in recurrent periodontitis: relationship to disease progression and doxycycline therapy. J Periodontal Res 1995b; 26: 479–485.

[13] Micheelis W Schiffner U: Vierte Deutsche Mundgesundheitsstudie (DMS IV). Institut der Deutschen Zahnärzte Köln 2006.

[14] Olbertz HP: Orthomolekulare Substitution bei Parodontitis und Regulationsstörungen. MSc-Thesis, Interuniversitäres Kolleg Univ. Graz, 2005

[15] Pack AR: A review of nutritional implications in periodontics. J N Z Soc Periodontol 1988; 65: 6–10.

[16] Prescher N, Maier K, Munjal S, Sorsa T, Bauermeister CD, Struck F, Netuschil L: Rapid quantitative chairside test for active MMP-8 in gingival crevicular fluid Ann N Y Acad Sci 2007; 1098: 493–495.

[17] Reinhardt RA, Stoner JA, Golub LM, Lee H-M, Nummikoski PV, Sorsa, T, Payne JB: Association of gingival crevicular fluid bliomarkers during periodontal maintenance with subsequent progressive periodontitis. J Periodontol 2010; 81: 251–259.

[18] Sorsa T, Tjäderhane L, Slao T: Matrix metalloproteinases (MMPs) in oral diseases. Oral Diseases 2004; 10: 311–318.

[19] Staudte H, Sigusch BW, Glockmann E: Grapefruit consumption improves vitamin C status in periodontitis patients. Br Dent J 2005; 199: 213–217.

[20] Xu L, Yu Z, Lee HM, Wolff MS, Golub LM, Sorsa T, Kuula H: Characteristics of collagenase-2 from gingical crevicular fluid and peri-implant sulcular fluid in

periodontitis and peri-implantitis patients. Acta Odont Scand 2008; 66: 219–224.

ZMK (32)7-8 2016, S. 472-477

Dr. Sylke Dombrowa

Parodontitis – ein Blick über den Tellerrand

[1] Vierte Deutsche Mundgesundheitsstudie (DMS IV), Kurzfassung. Institut der Deutschen Zahnärzte (IDZ) im Auftrag von Bundeszahnärztekammer und Kassenzahnärztlicher Bundesvereinigung, (2006).

[2] Kromer-Busch, D: Offensive gegen Parodontitis. Pressekonferenz der European Federation of Periodontology (EFP). PNC 4, (2016).

[3] EFP Manifesto Perio and General Health. efp.org, (2016).

[4] Ezzo P, Cutler CW: Microorganisms as risk indicators for periodontal disease. Periodontol 2000 32, 24–35 (2003).

[5] Slots J: Subgingival microflora and periodontal disease. J Clin Periodontol 6, 351–82. 38 (1979).

[6] Feng Z, Weinberg A: Role of bacteria in health and disease of periodontal tissues. Periodontology 2000 40, 50–76 (2006).

[7] Marsh PD: Microbial ecology of dental plaque and its significance in health and disease. Adv Dent Res 8 (2), 263–271 (1994).

[8] Ximenez-Fyvie LA, Haffajee AD, Socransky SS: Comparison of the microbiota of supra- and subgingival plaque in health and periodontitis. J Clin Periodontol 27, 648–657 (2000).

[9] Saxer C, Saxer UP: Wirrwarr in der Mundhöhle. Dental Magazin 29 (5), 54–61 (2011).

[10] Marsh PD: Microbial ecology of dental plaque and its significance in health and disease. Adv Dent Res 8 (2), 263–271 (1994).

[11] Amano A: Host-parasite interactions in periodontitis: microbial pathogenicity and innate immunity. Periodontology 2000 54, 9–14 (2010).

[12] Socransky SS, Haffajee AD, Cugini MA, Smith C, Kent RL: Microbial complexes in subgingival plaque. J Clin Peridontol 25, 134–144 (1998).

[13] Socransky SS, Smith C, Haffajee AD: Subgingival microbial profiles in refractory periodontal disease. J Clin Periodontol 29, 260–268 (2002).

[14] Slots J: Subgingival microflora and periodontal disease. J Clin Periodontol 6, 351–82. 38 (1979).

[15] Hajishengallis G: Periodontitis: from microbial immune subversion to systemic inflammation. Nat Rev Immunol 15 (1), 30-44 (2015).

[16] Loos BG: Systemic markers of inflammation in periodontitis. J Periodontol 76 (11 Suppl), 2106-15 (2005).

[17] Pink C, Kocher T, Meisel P, Deorr M, Markus MRP, Jablonowski L, Grotevendt A, Nauck M, Holtfreter B: Longitudinal effects of systemic inflammation markers on periodontitis. J Clin Periodontol 42, 988–997 (2015).

[18] Khader YS, Albashaireh ZSM, Alomari MA: Periodontal diseases and the risk of coronary heart and cerebrovascular diseases: a meta-analysis. J Periodontol 75 (8), 1046–1053 (2004).

[19] Grau AJ, Becher H, Ziegler CM, Lichy C, Buggle F, Kaiser C, Lutz R, Bültmann S, Preusch M, Dörfer C: Periodontal Disease as a Risk Factor for Ischemic Stroke. Stroke 35, 496–501 (2004).

[20] Stein JM, Kuch B, Conrads G, Fickl S, Chrobot J, Schulz S, Ocklenburg C, Smeets R: Clinical periodontal and microbiologic parameters in patients with acute myocardial infarction. J Periodontol 80 (10), 1581–9 (2009).

[21] Jardim EG, Marcelino SL, Feitosa ACR, Giuseppe A, Romito GA, Avila-Campos MJ: Quantitative detection of periodontopathic bacteria in atherosclerotic plaques from coronary arteries. Journal of Medical Microbiology 58, 1568–1575 (2009).

[22] Deschner J: Interaktionen zwischen parodontalen und kardiovaskulären Erkrankungen – ein Update. ZAHN PRAX 11 (5), 100–107 (2008).

[23] Dorn BR, Dunn WA, Progulkse-Fox A: Invasion of Human Coronary Artery Cells by Periodontal Pathogens. Infection and Immunity, 5792–5798 (1999).
[24] Giacona MB, Papapanou PN, Lamster IB, Rong LL, D'Agati VD, Schmidt AM, Lalla E: Porphyromonas gingivalis induces its uptake by human macrophages and promotes foam cell formation in vitro. FEMS Microbiol Lett 241 (1), 95–101 (2004).
[25] Kebschull M, et al: "Gum Bug, Leave My Heart Alone!" Epidemiologic and Mechanistic Evidence Linking Periodontal Infections and Atherosclerosis. J Dent Res 89 (9), 879–902 (2010).
[26] Deutsche Gesellschaft für Parodontologie. Parodontitis 2010. Das Risikokompendium. Quintessenz-Verlag (2010).
[27] Ebersole JL, Holt SC, Hansard R, Novak MJ: Microbiologic and immunologic characteristics of periodontal disease in Hispanic americans with type 2 diabetes. J Periodontol 79 (4), 637–646 (2008).
[28] Deschner J, et al: Diabetes mellitus und Parodontitis. Wechselbeziehung und klinische Implikationen. Ein Konsensuspapier. Der Internist 52 (4), 466–477 (2011).
[29] Michalowicz BS, Gustafsson A, Thumbigere-Math V, Buhlin K: The effects of periodontal treatment on pregnancy outcomes. J Periodontol 84 (4 Suppl.), S195–S208 (2013).
[30] Madianos PN, Bobetsis YA, Offenbacher S: Adverse pregnancy outcomes (APOs) and periodontal disease: pathogenic mechanisms. J Periodontol 84 (4 Suppl.), S170–S180 (2013).
[31] Sanz M, Kornman K: working group 3 of the joint EFP/AAP workshop. Periodontitis and adverse pregnancy outcomes: consensus report of the Joint EFP/AAP Workshop on Periodontitis and Systemic Diseases. J Periodontol 84 (4 Suppl), S164–9 (2013).
[32] López NJ, Smith PC, Gutierrez J: Periodontal therapy may reduce the risk of preterm low birth weight in women with periodontal disease: a randomized controlled trial. J Periodontol 73 (8), 911–24 (2002).
[33] Offenbacher S, Katz V, Fertik G, Collins J, Boyd D, Maynor G, McKaig R, Beck J: Periodontal infection as a possible risk factor for preterm low birth weight. J Periodontol 67 (10 Suppl), 1103–13 (1996).
[34] Mercado FB, Marshall RI, Bartold PM: Inter-relationships between rheumatoid arthritis and periodontal disease. A review. J Clin Periodontol 30 (9), 761–72 (2003).
[35] Detert J: Pathogenese der Parodontitis bei rheumatologisch erkrankten Patienten. Dental Tribune (3), 4–7 (2003).
[36] Moen K, Brun JG, Madland TM, Tynning T, Jonsson R: Immunoglobulin G and A antibody responses to Bacteroides forsythus and Prevotella intermedia in sera and synovial fluids of arthritis patients. Clin Diagn Lab Immunol10 (6), 1043–1050 (2003).
[37] Ziebolz D, Pabel SO, Lange K, Krohn-Grimberghe B, Hornecker E, Mausberg RF: Clinical periodontal and microbiologic parameters in patients with rheumatoid arthritis.J Periodontol (82), 1424–1432 (2011).
[38] Reichert S, et al: Detection of oral bacterial DNA in synovial fluid. J Clin Periodontol 40, 591–598 (2013).
[39] McGraw WT, Potempa J, Farley D, Travis J. Purification, characterization, and sequence analysis of a potential virulence factor from Porphyromonas gingivalis, peptidylarginine deaminase. Infect Immun 67 (7), 3248–3256 (1999).
[40] Wegner N, Wait R, Sroka A, Eick S, Nguyen KA, Lundberg K, Kinloch A, Culshaw S, Potempa J, Venables PJ: Peptidylarginine deaminase from Porphyromonas gingivalis citrullinates human fibrinogen and α-enolase: implications for autoimmunity in rheumatoid arthritis. Arthritis Rheum 9, 2662–2672 (2010).
[41] Pischon N, Pischon T, Kröger J, Gülmez E, Kleber BM, Bernimoulin JP, Landau H, Brinkmann PG, Schlattmann P, Zernicke J, Buttgereit F, Detert J: Association among rheumatoid arthritis, oral hygiene, and periodontitis. J Periodontol 79 (6), 979–86 (2008).
[42] Nesse W, Dijkstra PU, Abbas F, Spijkervet FK, Stijger A, Tromp JA, van Dijk JL, Vissink A: Increased prevalence of cardiovascular and autoimmune diseases in periodontitis patients: a cross-sectional study. J Periodontol 81 (11), 1622–8 (2010).

[43] Terpenning M, Taylor GW, Lopatin DE, Kerr CK, Dominguez BL, Loesche WJ: Aspiration pneumoniae: dental and oral risk factors in an older veteran population. J Am Geriatr Soc (49), 557–563 (2001).
[44] Kshirsagar AV, Offenbacher S, Moss KL, Barros SP, Beck JD: Antibodies to periodontal organisms are associated with decreased kidney function. The Dental Atherosclerosis Risk In Communities study. Blood Purif 25 (1), 125–32 (2007).
[45] Ricardo AC, Athavale A, Chen J, Hampole H, Garside D, Marucha P, Lash JP: Periodontal disease, chronic kidney disease and mortality: results from the third National Health and Nutrition Examination Survey. BMC Nephrol 16, 97 (2015).
[46] Ide M, Harris M, Stevens A, Sussams R, Hopkins V, Culliford D, et al: Periodontitis and Cognitive Decline in Alzheimer's Disease. PLoS ONE 11 (3), (2016).
[47] Michaud DS, Kelsey KT, Papathanasiou E, Genco CA, Giovannucci E: Periodontal disease and risk of all cancers among male never smokers: an updated analysis of the Health Professionals Follow-up Study. Ann Oncol 27 (5), 941–7 (2016).
[48] Linden GJ, Lyons A, Scannapieco FA: Periodontal systemic associations: review of the evidence. J Clin Periodontol 40 (Suppl 14), 8–19 (2013).
[49] Gallimidi AB, Fischman S, Revach B, Bulvik R, Maliutina A, Rubinstein AM, Nussbaum G, Elkin M: Periodontal pathogens Porphyromonas gingivalis and Fusobacterium nucleatum promote tumor progression in an oral-specific chemical carcinogenesis model. Oncotarget 6 (26), 22613–23 (2015).
[50] Offenbacher S, Beck JD, Moss K, Mendoza L, Paquette DW, Barrow DA, Couper DJ, Stewart DD, Falkner KL, Graham SP, Grossi S, Gunsolley JC, Madden T, Maupome G, Trevisan M, Van Dyke TE, Genco RJ: Results from the Periodontitis and Vascular Events (PAVE) Study: a pilot multicentered, randomized, controlled trial to study effects of periodontal therapy in a secondary prevention model of cardiovascular disease. Journal of Periodontology 80, 190–201(2009).
[51] Tonetti MS, D'Aiuto F, Nibali L, Donald A, Storry C, Parkar M, Suvan J, Hingorani AD, Vallance P, Deanfield J: Treatment of periodontitis and endothelial function. N Engl J Med 356 (9), 911–20 (2007).
[52] Teeuw WJ, Gerdes VE, Loos BG: Effect of periodontal treatment on glycemic control of diabetic patients: a systematic review and meta-analysis. Diabetes Care 33 (2), 421–7 (2010).
[53] Simpson TC, Needleman I, Wild SH, Moles DR, Mills EJ: Treatment of periodontal disease for glycaemic control in people with diabetes. The Cochrane Library Issue 5, 1–66 (2010).
[54] Ortiz P, Bissada NF, Palomo L, Han YW, Al-Zahrani MS, Panneerselvam A, Askari A: Periodontal therapy reduces the severity of active rheumatoid arthritis in patients treated with or without tumor necrosis factor inhibitors. J Periodontol 80 (4): 535–540 (2009).
[55] Kaur S, Bright R, Proudman SM, Bartold PM: Does periodontal treatment influence clinical and biochemical measures for rheumatoid arthritis? A systematic review and meta-analysis. Semin Arthritis Rheum 44 (2), 113–22 (2014).
[56] Beikler et al: Wissenschaftliche Stellungnahme DGZMK: Adjuvante Antibiotika in der Parodontitistherapie. DZZ (2003).

ZMK (32)7-8 2016, S. 468-471

Prof. Dr. Bernd Reitemeier, Dr. Jürgen Hartmann, OA Dr. Rainer Fischer, OA Dr. Matthias Meinhardt, PD Dr. Karsten Conrad, Dr. Matthias Schulz

Erosiv-ulzerierende intraorale Entzündung. Dentale Materialunverträglichkeit oder Allgemeinerkrankung?

[1] Alam F, Argiriadou AS, Hodgson TA, Kumar N, Porter SR: Primary syphilis remains a cause of oral ulceration. Br Dent J 189, 352–354 (2000).
[2] Arx DP, Husain A: Oral tuberculosis. Br Dent J 190, 420–422 (2001).
[3] Axell T: Oral mucosal lesions. Malmö: Lundgrens Söner (1976).
[4] Birnbaum W, Dunne SM: Oral diagnosis – the clinician's guide. Oxford: Wright (2000).
[5] Cerinic MM, Pignone A, Lombardi A: Autoimmune rheumatic diseases: oral manifestations. In: Lotti TM, Parish SC, Roders RS (ed). Oral diseases. Berlin, Heidelberg, New York: Springer, 175–178 (1999).
[6] Eisen D, Lynch DP: The mouth: diagnosis and treatment. St. Louis: Mosby (1998).
[7] Geurtsen W: Toxicology of dental materials and 'clinical experience'. J Dent Res 82, 500 (2003).
[8] Haust M, Bonsmann G, Kuhn A: Current diagnosis of cutaneous lupus erythematosus. Dtsch Med Wochenschr 131, 1594–1598 (2006).
[9] Hiraki A, Nakamura S: Numb chin syndrome as an initial symptom of acute lymphocytic leukemia: report of three cases. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 83, 555–561 (1997).
[10] Hitz Lindenmuller I, Itin PH, Fistarol SK: Dermatology of the lips: inflammatory diseases. Quintessence Int 45, 875–883 (2014).
[11] Kallus T, Mjor IA: Incidence of adverse effects of dental materials. Scand J Dent Res 99, 236–240 (1991).
[12] Kiyono H, Kweon MN, Hiroi T, Takahashi I: The mucosal immune system: from specialized immune defense to inflammation and allergy. Acta Odontol Scand 59, 145–153 (2001).
[13] Laine J, Kalimo K, Happonen RP: Contact allergy to dental restorative materials in patients with oral lichenoid lesions. Contact Dermatitis 36, 141–146 (1997).
[14] Laskaris G: Treatment of oral diseases: A concise textbook. Stuttgart New York: Thieme (2005).
[15] Levin L: Medicine and dentistry: Different entities? Quintessence Int 46, 371 (2015).
[16] Lygre H: Prosthodontic biomaterials and adverse reactions: a critical review of the clinical and research literature. Acta Odontol Scand 60, 1–9 (2002).
[17] Newman HN: The dentist as physician. Br Dent J 185, 374 (1998).
[18 Rhodus NL, Johnson DK: The prevalence of oral manifestations of systemic lupus erythematosus. Quintessence Int 21, 461–465 (1990).
[19] Schiodt M, Holmstrup P, Dabelsteen E, Ullman S: Deposits of immunoglobulins, complement, and fibrinogen in oral lupus erythematosus, lichen planus, and leukoplakia. Oral Surg Oral Med Oral Pathol 51, 603–608 (1981).
[20] Sreebny LM: Saliva in health and disease: an appraisal and update. Int Dent J 50, 140–161 (2000).
[21] Stafford R, Sonis S, Lockhart P, Sonis A: Oral pathoses as diagnostic indicators in leukemia. Oral Surg Oral Med Oral Pathol 50, 134–139 (1980).
[22] Wirz J, Jäger K, Schmidli F: Clinical corrosion. Effect of fissures on an incompatible nonprecious-metal crown alloy. Schweiz Monatsschr Zahnmed 97, 1151–1158 (1987).

ZMK (32)7-8 2016, S. 457-467

Dr. Christian Kirschneck, Prof. Dr. Peter Proff

Kieferorthopädische Extraktionstherapie bei Molaren-Inzisiven-Hypomineralisation (MIH)

[1] Weerheijm KL, Jalevik B, Alaluusua S: Molar-incisor hypomineralisation. Caries Res 35, 390–391 (2001).

[2] Weerheijm KL, Duggal M, Mejare I et al.: Judgement criteria for molar incisor hypomineralisation (MIH) in epidemiologic studies: a summary of the European meeting on MIH held in Athens, 2003. Eur J Paediatr Dent 4, 110–113 (2003).

[3] Ogden AR, Pinhasi R, White WJ: Nothing new under the heavens: MIH in the past? Eur Arch Paediatr Dent 9, 166–171 (2008).

[4] Knapp V, Nies S: Molar-Incisor-Hypomineralization. Zahnmedizin up2date 3, 491–510 (2009).

[5] Ostertag S: Die Molaren-Inzisiven-Hypomineralisation – ein bedeutendes Problem in der Kinderzahnmedizin. Quintessenz 62, 1553–1557 (2011).

[6] Jalevik B: Prevalence and diagnosis of molar-incisor-hypomineralisation (MIH): A systematic review. Eur J Paediatr Dent 11, 59–64 (2010).

[7] Heitmüller D, Hickel R, Kühnisch J: Diagnostik der Molaren-Inzisor-Hypomineralisation. Quintessenz 62, 1559–1563 (2011).

[8] Kellerhof N: Ätiologie der Molaren-Inzisiven-Hypomineralisation. Quintessenz 62, 1565–1571 (2011).

[9] Jalevik B, Dietz W, Noren JG: Scanning electron micrograph analysis of hypomineralized enamel in permanent first molars. Int J Paediatr Dent 15, 233–240 (2005).

[10] Lygidakis NA, Wong F, Jalevik B et al.: Best clinical practice guidance for clinicians dealing with children presenting with molar-incisor-hypomineralisation (MIH): An EAPD Policy Document. Eur Arch Paediatr Dent 11, 75–81 (2010).

[11] Jalevik B, Klingberg GA: (2002) Dental treatment, dental fear and behaviour management problems in children with severe enamel hypomineralization of their permanent first molars. Int J Paediatr Dent 12, 24–32 (2002).

[12] Schätzle M, Patcas R: Idealer Extraktionszeitpunkt der ersten bleibenden Molaren – eine Literaturübersicht. Quintessenz 62, 1631–1635 (2011).

[13] Eichenberger M, Erb J, Zwahlen M et al.: The timing of extraction of non-restorable first permanent molars: a systematic review. Eur J Paediatr Dent 16, 272–278 (2015).

[14] Williams JK, Gowans AJ: Hypomineralised first permanent molars and the orthodontist. Eur J Paediatr Dent 4, 129–132 (2003).

[15] Fayle SA: Molar incisor hypomineralisation: restorative management. Eur J Paediatr Dent 4, 121–126 (2003).

[16] Steffen R: Therapie der Molaren-Inzisiven-Hypomineralisation in einem schwierigen Umfeld: Praktische Konzepte für den Behandlungsalltag. Quintessenz 62, 1613–1623 (2011).

[17] Lygidakis NA: Treatment modalities in children with teeth affected by molar-incisor enamel hypomineralisation (MIH): A systematic review. Eur Arch Paediatr Dent 11, 65–74 (2010).

[18] Onat H, Tosun G: Molar incisor hypomineralization. J Paediatr Dent 1, 53 (2013).

[19] Feierabend S: Spätfolgen der Molaren-Inzisiven-Hypomineralisation: Möglichkeiten der prothetischen Langzeittherapie. Quintessenz 62, 1637–1643 (2011).

[20] Cobourne MT, Williams A, Harrison M: National clinical guidelines for the extraction of first permanent molars in children. Brit Dent J 217, 643–648 (2014).

[21] Koch MJ, Garcia-Godoy F: The clinical performance of laboratory-fabricated crowns placed on first permanent molars with developmental defects. J Am Dent Assoc 131, 1285–1290 (2000).

[22] Zagdwon AM, Fayle SA, Pollard MA: A prospective clinical trial comparing preformed metal crowns and cast restorations for defective first permanent molars. Eur J Paediatr Dent 4, 138–142 (2003).
[23] Jalevik B, Moller M: Evaluation of spontaneous space closure and development of permanent dentition after extraction of hypomineralized permanent first molars. Int J Paediatr Dent 17, 328–335 (2007).
[24] Breunig A, Kirschneck C: Kieferorthopädische Therapie von Nichtanlagen – Lückenschluss oder Lückenöffnung? Quintessenz 67, 1–11 (2016).
[25] Gill DS, Lee RT, Tredwin CJ: Treatment planning for the loss of first permanent molars. Dent Update 28, 304–308 (2001).
[26] Sandler PJ, Atkinson R, Murray AM: For four sixes. Am J Orthod Dentofacial Orthop 117, 418–434 (2000).
[27] Schopf P: Curriculum Kieferorthopädie: Werkstoffe. Festsitzende Apparaturen. Kieferorthopädische Therapie. Interdisziplinäre Aspekte. Anhang: Kieferorthopädische Abrechnung, 4., überarb. und erw. Aufl. Quintessenz-Verlag, Berlin (2008).
[28] Komposch G: Extraction of 1st permanent molars within the framework of orthodontic treatment. Indications, timing and clinical problems (Die Sechsjahrmolarenextraktion im Rahmen der kieferorthopadischen Behandlung. Indikation, Zeitpunkt und klinische Problematik). Dtsch Zahnarztl Z 41, 100–104 (1986).
[29] Thilander B, Skagius S: Orthodontic sequelae of extraction of permanent first molars. A longitudinal study. Rep Congr Eur Orthod Soc, 429–442 (1970).
[30] Ong DC-V, Bleakley JE: Compromised first permanent molars: an orthodontic perspective. Aust Dent J 55, 2–14; quiz 105 (2010).
[31] Baume LJ: Auswirkungen der Extraktion von Zähnen auf das deforme Gebiß. Schweiz Mschr Zhlk 49/50, 295–337/45–64 (1939/1940).
[32] Ay S, Agar U, Bicakci AA et al.: Changes in mandibular third molar angle and position after unilateral mandibular first molar extraction. Am J Orthod Dentofacial Orthop 129, 36–41 (2006).
[33] Livas C, Halazonetis DJ, Booij JW et al.: Extraction of maxillary first molars improves second and third molar inclinations in Class II Division 1 malocclusion. Am J Orthod Dentofacial Orthop 140, 377–382 (2011).
[34] Bayram M, Ozer M, Arici S: Effects of first molar extraction on third molar angulation and eruption space. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 107, e14–20 (2009).
[35] Mejare I, Bergman E, Grindefjord M: Hypomineralized molars and incisors of unknown origin: treatment outcome at age 18 years. Int J Paediatr Dent 15, 20–28 (2005).
[36] William V, Messer LB, Burrow MF: Molar incisor hypomineralization: review and recommendations for clinical management. Pediatr Dent 28, 224–232 (2006).
[37] Jacobs C, Jacobs-Muller C, Luley C et al.: Orthodontic space closure after first molar extraction without skeletal anchorage. J Orofac Orthop 72, 51–60 (2011).

ZMK (32)7-8 2016, S. 449-454

Dr. Stefan Koch

Mundgeruch – mehr als ein lästiges Übel. Ein Therapiekonzept für die Zahnarztpraxis

[1] Almas K, Al-Sanawi E, Al-Sharani B. The effect of tongue scraper on mutans streptococci and lactobacillin patients with caries and periodontal disease. Odontostomatol Trop 2005; 28: 506–510.

[2] Amou T, Yoshioka M, Grenier D. Relationship between halitosis and periodontal disease – associated oral bacteria in tongue coatings. Int J Dent Hyg 2014; 12 (2): 145–151.

[3] Baumann S, Herrmann J, Raju R et al. Cystobactamids: myxobacterial topoisomerase inhibitors exhibiting potent antibacterial activity. Angew Chem Int Ed 2014; 53: 14605–14609.

[4] Bosy A, Kulkarni GV, Rosenberg M et al. Relationship of oral malodor to periodontitis: evidence of independence in discrete subpopulations. J Periodontol 1994; 65: 37–46.

[5] Danser M, Gomez Mantilla S, Van der Weijden GA. Tongue coating and tongue brushing: a literature review. Int J Dent Hyg 2003; 1 (3): 151–158.

[6] De Boever E H, Loesche W J. Assessing the contribution of anaerobic microflora of the tongue to oral malodor. J Am Dent Assoc 1995; 126:1384.

[7] Filippi A, Meyer J. Halitosis – Ursachen, Diagnose, Therapie. Schweiz Med Forum 2004;4:585–589.

[8] Filippi A. (Hrsg.). Halitosis-Patienten mit Mundgeruch in der zahnärztlichen Praxis. Quintessenz, Berlin 2005.

[9] Geist H. Vom Foetor ex ore in der Antike. Zahnärztl Prax 1956; 7: 12–13.

[10] Haraszthy V I, Zambon J J, Sreenivasan PK et al. Identification of oral bacterial species associated with halitosis. J Am Dent Assoc 2007; 138: 1113–1120.

[11] Informationsdienst Wissenschaft (idw) – Pressemitteilung Helmholtz-Zentrum für Infektionsforschung. Natürlicher Bakterienkiller entdeckt. 17.12.2014.

[12] Jecke U. Klinische Studie zur Beurteilung oraler Risikoparameter für Halitosis. Med. Diss. München 2002.

[13] Johnson P W, Wang W, Tonitzetich J. Modulation of human gingival fibroblast cell metabolism by methyl mercaptan. J Periodontal Res 1992; 27: 476–483.

[14] Lang B, Filippi A. Halitosis, Teil 2: Diagnostik & Therapie. Schweiz Monatsschr Zahnmed 2004; 114 (11): 1151–1159.

[15] Lässig HE, Müller RA. Die Zahnheilkunde in Kunst- und Kulturgeschichte. DuMont, Köln 1983.

[16] Mandel ID. Chemotherapeutic agents for controlling plaque and gingivitis. J Clin Periodontol 1988; 15: 488–498.

[17] Miyazaki H, Fujita C, Katoh Y et al. Relationship between volatile sulphur compounds and oral conditions in the general Japanese population. In: Bad breath: a multidisciplinary approach. Hrsg.: Van Steenberghe D, Rosenberg M. Tel Aviv, Israel: Ramot Publishing, Tel Aviv University, 1996, 165–181.

[18] Mitsubayashi K, Minamide T, Otsuka K et al. Optical bio-sniffer for methyl mercaptan in halitosis. Anal Chim Acta 2006; 28: 75–80, 573–574.

[19] Quirynen M, Dadamio J, van den Velde S et al. Characteristics of 2000 patients who visited a halitosis clinic. J Clin Periodontol 2009; 36: 970–975.

[20] Roldan S, Winkel EG, Herrera D et al. The effects of a new mouthrinse containing chlorhexidine, cetylpyridinium chloride and zinc lactate on the microflora of oral halitosis patients: a dual-centre, couble-blind placebo-controlled study. J Clin Periodontol 2003; 30 (5): 427–434.

[21] Rosenberg M, Leib E. Experiences of an Israeli malodor clinic. In: Bad breath: research perspectives. 1995. Rosenberg M (Hrsg.). Tel Aviv, Israel: Ramot Publishing, Tel Aviv University, 137–148.

[22] Rosenberg M, Septon I, Eli I et al. Halitosis measurement by an industrial sulphide monitor. J Periodontol 1991; 62: 487–489.
[23] Seemann R. Wenn der Atem stinkt. Zahnärztl Mitt 2000; 90: 502–505 und 644–648.
[24] Suzuki N, Yoneda M, Naito T et al. Relationship between halitosis and psychologic status. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2008; 106: 542–547.
[25] Van Winkelhoff A J, Winkel E. Vortrag AFZ Karlsruhe 2002.
[26] Van Winkelhoff A J, Winkel E. Vortrag AFZ Karlsruhe 2006.
[27] Wigger-Alberti W, Gysen K, Axmann EM et al. Clinical efficacy of meridol® HALITOSIS mouthrinse on the reduction of oral malodour. Europerio 6, June 4–6 2009, Stockholm, Schweden.
[28] Yaegaki K, Coil JM. Examination, classification, and treatment of halitosis – clinical perspectives. J Can Dent Assoc 2000; 66: 257–267.

ZMK (32)7-8 2016, S. 442-448

Prof. Dr. Sebastian Hahnel

Mundtrockenheit und Geschmacksveränderungen: regelmäßige Befunde in der Seniorenzahnmedizin

[1] Affoo RH, Foley N, Garrick R, Siqueira WL, Martin RE: Meta-analysis of salivary flow rates in young and older adults. J Am Geriatr Soc 63, 2142–2151 (2015).

[2] Aitken-Saavedra J, Rojas-Alcayaga G, Maturana-Ramírez A, Escobar-Álvarez A, Cortes-Coloma A, Reyes-Rojas M, Viera-Sapiain V, Villablanca-Martínez C, Morales-Bozo I: Salivary gland dysfunction markers in type 2 diabetes mellitus patients. J Clin Exp Dent 7, e501–e505 (2015).

[3] Bernardi MJ, Reis A, Loguercio AD, Kehrig R, Leite MF, Nicolaud J: Study of the buffering capacity, pH and salivary flow rate in type 2 well-controlled and poorly controlled diabetic patients. Oral Health Prev Dent 5, 73–78 (2007).

[4] Boyce JM, Shone GR. Effects of ageing on smell and taste. Postgrad Med J 82, 239–241 (2006).

[5] Dawes C: Physiological factors affecting salivary flow rate, oral sugar clearance and the sensation of dry mouth in man. J Dent Res 66, 648–653 (1987).

[6] Femiano F, Rullo R, Di Spirito F, Lanza A, Festa VM, Cirillo N: A comparison of salivary substitutes versus a natural sialogogue (citric acid) in patients complaining of dry mouth as an adverse drug reaction: a clinical, randomized controlled study. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 112, e15–e20 (2011).

[7] Hahnel S: Mundtrockenheit: Ursachen, Diagnose, Therapie. Spitta-Verlag, Balingen; 2012.

[8] Hahnel S, Schwarz S, Zeman F, Schäfer L, Behr M: Quality of life in elderly patients and its association with xerostomia, hyposalivation and prosthetic rehabilitation. J Dent 42, 664–670 (2014).

[9] Herrmann G, Müller K, Behr M, Hahnel S: Xerostomie und ihr Einfluss auf die mundgesundheitsbezogene Lebensqualität. Z Gerontol Geriatr (2015).

[10] Hoffmann HJ, Cruickshanks KJ, Davis B: Perspectives on population-based epidemiological studies of olfactory and taste impairment. Ann N Y Acad Sci 1170, 514–530 (2009).

[11] Imoscopi A, Inelmen EM, Sergi G, Miotto F, Manzato E: Taste loss in the elderly: epidemiology, causes and consequences. Aging Clin Exp Res 24, 570–579 (2012).

[12] Iwasaki M, Yoshihara A, Ito K, Sator M, Minagawa K, Muramatsu K, Watanabe R, Manz MC, Ansai T, Miyazaki H: Hyposalivation and dietary nutrient intake among community-based older Japanese. Geriatr Gerontol Int (2015); epub ahead of print.

[13] Kielbassa AM, Shohadai SP, Schulte-Monting J: Effect of saliva substitutes on mineral content of demineralized and sound dental enamel. Support Care Cancer 9, 40–47 (2001).

[14] Laaksonen M, Ramseier AM, Rovó A, Jensen SB, Raber-Durlacher JE, Zitzmann NU, Waltimo T: Longitudinal assessment of hematopoietic stem cell transplantation and hyposalivation. J Dent Res 90, 1177–1182 (2011).

[15] Meyer-Lückel H, Schulte-Monting J, Kielbassa AM: The effect of commercially available saliva substitutes on predemineralized bovine dentin in vitro. Oral Dis 8, 192–198 (2002).

[16] Momm F, Volegova-Neher NJ, Schulte-Möhring J, Guttenberger R: Different saliva substitutes for treatment of xerostomia following radiotherapy. A prospective crossover study. Strahlenther Onkol 181, 231–236 (2005).

[17] Nederfors T, Isaksson R, Mörnstad H, Dahlöf C: Prevalence of perceived symptoms of dry mouth in an adult Swedish population – relation to age, sex and pharmacotherapy. Community Dent Oral Epidemiol 25, 211–216 (1997).

[18] Rädel M, Hartmann A, Bohm S, Priess HW, Walter M: Barmer GEK Zahnreport (2015).

[19] Rahmenvereinbarung nach § 119b Abs. 2 SGB V über Anforderungen an eine kooperative und koordinierte zahnärztliche und pflegerische Versorgung von pflegebedürftigen Versicherten in stationären Pflegeeinrichtungen, (2014).
[20] Rawal S, Hoffman HJ, Bainbridge KE, Huedo-Medina TB, Duffy VB: Prevalence and risk factors of self-reported smell and taste alterations: results from the 2011–2012 US National Health and Nutrition Examination Survey (NHANES). Chem Senses (2015); epub ahead of print.
[21] Ship J, Vissink A, Sreebny LM: Treating dry mouth: help is available. In: Sreebny LM, Vissink A (Hrsg.): Dry mouth – the malevolent clinical symptom: a clinical guide. Wiley-Blackwell, 183–210 (2010).
[22] Smidt D, Torpet LA, Nauntofte B, Heegaard KM, Pedersen AML: Associations between oral and ocular dryness, labial and whole salivary flow rates, systemic diseases and medications in a sample of older people. Community Dent Oral Epidemiol 39, 276–288 (2011).
[23] Statistisches Bundesamt, Wiesbaden (Hrsg.). Pflegestatistik 2013; Pflege im Rahmen der Pflegeversicherung. 12. März 2015.
[24] Thomson WM, Van der Putten GJ, De Baat C, Ikebe K, Matsuda KI, Enoki K, Hopcraft MS, Ling GY: Shortening the Xerostomia Inventory. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 112, 322–327 (2011).
[25] Winkler S, Garg AK, Mekayarajjananonth T, Bakaeen LG, Khan E: Depressed taste and smell in geriatric patients. JADA 130, 1759–1765 (1999).
[26] http://www.bib-demografie.de/DE/ZahlenundFakten/02/Abbildungen/a_02_12_ag_20_65_80_d_1871_2060.html?nn=3074114
[27] Yamauchi Y, Endo S, Yoshimura I: A new whole-mouth gustatory test procedure. II. Effects of aging, gender and smoking. Acta Otolaryngol Suppl 546, 49–59 (2002).